Series 5100/6100™
Voice/Data Router

Reference Manual
H.323 Telephony

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About this manual

Audience

This manual is written for the technical staff of a service provider, who are responsible for the configuration of Vpacket 5100/6100 Voice/Data Router (VDR) telephony software. These users include, but are not limited to, network technicians, systems administrators, and network operation staff.

Content summary

This manual contains all of the information you need to configure the 5100/6100 VDR telephony software running in an H.323 environment. Table 1 lists the chapters and appendixes and a summary of each.

Table 1. Chapter summaries

Location	Contents
Chapter 1 About H.323	Describes the H.323 environment and how to access the telephony commands and H.323 command help
Chapter 2 T1 voice interface commands	Describes how to configure a digital T1 voice interface
Chapter 3 TCID commands	Describes TCID commands
Chapter 4 Coding profile commands	Describes how to set fax related settings and coding profiles
Chapter 5 H.323 commands	Describes the commands that configure the exchanges between an H.323 gatekeeper and the 5100/6100 VDR
Chapter 6 Address Translation Parsing Module (ATPM)	Explains how to configure a dial plan, hunt groups, and destination lists
Chapter 7 Call quality commands	Describes commands related to voice quality
Chapter 8 Default coding profiles	Lists the 9 default coding profiles

Conventions

This manual uses typeface, syntax, and messages to alert you to information of special interest.

Typefaces

Table 2 lists the typefaces that are used in this manual.

Table 2. Typefaces and their meanings

Typeface	Description
Bold	Designates menus, commands, and parameters
`Courier`	Designates output resulting from a command issued by a user and messages issued via a telnet or terminal-emulation screen

Command syntax

The syntax of commands is described using the following conventions:

- Angle brackets (<fill_in_the_blank >) denote required parameters or arguments.
- Square brackets ([ ]) denote optional elements.
- A pipe (|) separates choices.

Messages

Notes, cautions, and warnings are posted throughout the manuals to give supplementary information and encourage safety awareness and safe practices.

Notes

Notes are supplemental information requiring your attention.

For example:

Note. Please remember to go to the Vpacket Web site and complete the online Warranty Registration Card. Doing so registers your Vpacket 5100/6100 VDR and allows you to receive the latest information, technical support, and upgrades applicable to your unit.

Cautions

Cautions are information requiring extra attention.

For example:

Caution. No system-level confirmation message appears during the deletion.

Warnings

Warnings are information that, if not followed, could result in injury or equipment damage.

For example:

Warning. Use of longer screws could result in damage to internal components.

Related documentation

The documentation set related to the Vpacket 5100/6100 VDR includes all documents on the CD-ROM that was shipped with the unit:

- *Vpacket 5100/6100 Series Voice/Data Router Installer's Guide, Release 2.1* (P/N 750-00??-001)
- Quick Start Guides
  - *T1 and dual T1 Quick Start Guide*
  - *SDSL Quick Start Guide*
  - *Ethernet WAN Quick Start Guide*
  - *T1-PRI Voice Quick Start Guide*
- V*packet 5100/6100 Series Voice/Data Router Datasheet*

The reference manual is broken down into five sections allowing you to print only the sections that apply to your network environment:

- *Vpacket 5100/6100 Series Voice/Data Router Reference Manual (Data Features)*
- *Vpacket 5100/6100 Series Voice/Data Router MGCP Telephony Configuration*
- *Vpacket 5100/6100 Series Voice/Data Router SIP Telephony Configuration*
- *Vpacket 5100/6100 Series Voice/Data Router* H.323 Telephony Configuration
- *Vpacket 5100/6100 Series Voice/Data Router* Web Reference

Contact information

For more information about the Vpacket 5100/6100 Series VDRs, please contact us using any of the following methods.

Voice calls

We welcome your calls at 1(866) 872-2538 (VPACKET) Monday through Friday, from 9:00 am to 6:00 pm Pacific Time. Voice mail is available during non-business hours.

E-mail

If you prefer, you can send information requests to our e-mail address: info@vpacket.com

Fax number

You can also send your requests for information to our 24-hour fax number:

1(408) 433-5870

Website

Our website contains valuable information about our products. We encourage you to visit us at http://www.vpacket.com

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CHAPTER II

About H.323

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CHAPTER 1
About H.323

Overview

This chapter describes the capability of the 6100 VDR to support IP telephony and the basic procedures for supporting the voice ports using the Command Line Interface (CLI).

This chapter contains three sections:

- Background information about IP telephony based on H.323
- A description of the uses of telephony channels (TCIDs) and their coding profiles for encoding the characteristics of traffic flow
- Procedures for entering the telephony command shell and accessing help

H.323 and voice services over IP

The basic conditions that required bringing together data and voice routing capabilities were the development of specialized telephonic applications connecting LAN devices, across a WAN, and with interfaces to the PSTN. These required attention to several key areas:

- Operational differences between packet-switched and circuit-switched environments
- Major issues revolving on the management of bandwidth, QoS, and latency

These required the development of protocols capable of managing:

- Audio compression to reduce bandwidth
- Sensitivity to latency on the audio path–a 200ms round trip is considered acceptable
- Use jitter buffers and codecs that minimize the network impacts

H.323 is an "umbrella standard" that encompasses many subordinate standards and allows the reuse of existing data and telecommunications standards such as Q.931. H.323 defines a flexible means for multimedia teleconferencing equipment to communicate and provides application-sharing features over an IP stack using a variety of devices including videophones, desktop PCs, and multiport gateways.

Note. G.726 is not supported in H.323.

Setting up voice ports for H.323

To enable voice services, you must individually set up each voice port. Each voice port needs to have telephony channel identifier (TCID) parameters configured, a set coding profile and then any coding profile parameters need to be configured.

Note. Vpacket strongly recommends that you use the supplied coding profiles listed in Appendix D for initial configuration and system tests. Only when network quality characteristics have been benchmarked and systematically tested, you can proceed with customizing them.

Coding profiles

Coding profiles are configuration files that consist of numbered sets of parameters that control the characteristics of the voice and fax traffic over the DSP channels. You can assign at least one but usually two coding profiles (one for voice and one for fax) to a TCID as a way of providing quick definition of services over that channel.

Coding profiles can be used by any TCID assigned to a port on a 6100 VDR but only one at a time.

Vpacket has supplied eight default coding profiles, six for voice and two for fax. Each coding profile uses one of the major industry standard codecs, including G.711 (A-law 64 kbps), G.711m-law, G.723 5.3, G.723 6.3, G.726 (ADPCM), and G.729ab as well as two versions of T.38 fax. Based on these coding profiles, you can create additional coding profiles for a maximum of 32 coding profiles.

Note. G.726 is not supported in H.323.

When the VDR first boots up, all TCIDs are assigned the default coding profile 0 (G.711m- law).

TCID

The TCID represents the telephony (logical) channel associated with each analog port. They are numbered as integers from 0 to (the number of voice ports on the VDR minus 1). For example, the 24-port VDR (either 24 analog FXS ports or 24 channels in T1-CAS) has a TCID range of 0-23.

Figure 1-1 shows the 6100 voice ports, voice port numbers, TCID numbers, and coding profiles.

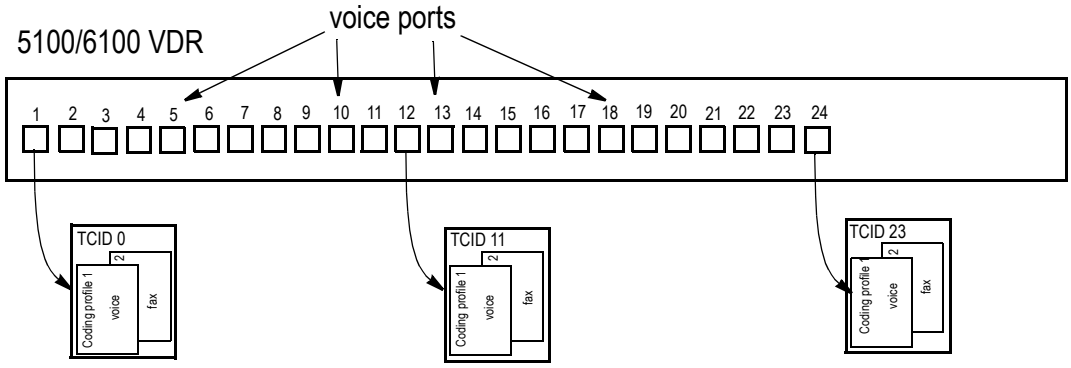


Figure 1-1. Relationship between voice ports, TCID, and coding profiles

Activating and storing configurations

When a command is issued, it is placed in a temporary storage area where it can be stored or removed by user operation. To implement a change, that command must be stored in Flash memory with the **activate** command and then stored in the configuration file with a **commit** command so when the VDR is rebooted it is part of the current configuration. When a sequence of commands is entered and processed, it changes the values of the affected parameters in a temporary area, but this does not affect current operation which uses values in the active area.

When you issue the **activate** command, the new configuration data is moved from the temporary area to the active area, where it can actually be used. Thus a user can make multiple changes in the temporary area, for example, using **set coding** commands, then put them into use with a single **activate** command.

Use the **activate** command only between calls since when it is invoked, it tears down (disrupts) any calls that are in progress.

Configuration data in the active area is only available while the software platform remains in operation. If the **reset** command is issued, or if the platform is manually reset, the active area is reloaded from the data stored in Flash memory. Data in the active area may be saved to Flash memory by entering the **commit** command.

Evaluating call quality

H.323 support includes Call Detail Record (CDR) functionality. CDR records every successful phone call which is placed through the VDR. Each successful phone call will have one record in the CDR list. The System Administrator can extract and review detailed records concerning phone quality and also can access these records for billing purposes.

Accessing the telephony commands

The H.323 commands are available within the command line interface (CLI) under the telephony command shell. Once you establish connectivity to the 6100 VDR either through a HyperTerminal session or a telnet session, you can access the telephony shell by entering *tel* and pressing the Enter key (Figure 1-2).

```
VPacket# tel
telephony#
```

Figure 1-2. Entering the telephony command shell

Accessing help

Once inside the telephony command shell, you can view a listing of H.323 commands by entering either the set or show keywords (Figure 1-3).

```
VPacket# tel
telephony# set
set tcid
set coding
set h323
VPacket#
```

Figure 1-3. Viewing H.323 help

If you enter a two word combination, you can view the entire list of available commands within that group. The list contains both basic and advanced commands; so, it is possible to change parameters that might adversely affect a network.

The commands are listed by group:

- Show commands
- Coding profile parameter command
- TCID parameter commands (including loop start options)
- T1 parameter commands
- H.323-specific commands
- Call quality commands

Viewing the DSP version

You can view the character string that identifies the version of the DSP software by issuing the **show dsp_version** command.

Syntax: **show dsp_version [dsp]**

Argument:

dsp	the number of the DSP you want to view information about

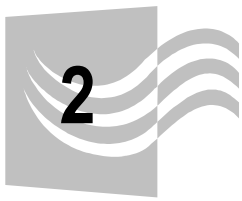
Example:

```
MXP>show dsp_version 1
DSP Version: 6.2.3.107, Voice & Fax, @Small, C548F/C549F, Codecs 0xffd2, Features
0x1fe
```

In this example, the DSP information is shown.

CHAPTER 1
About H.323

T1 voice interface commands



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CHAPTER 2
T1 voice interface commands

Overview

From within the telephony shell, you can access the T1 commands necessary for configuring digital voice over a T1 port with channel associated signaling (CAS) or primary rate interface (PRI) signaling.

Note. If, after customizing the T1 configuration, you use the flashclean command, all T1 settings will return to the default settings.

For 5100/6100 VDR models with a digital T1 voice port, the following parameters must be set prior to use:

- frame mode
- linecoding
- clock source
- loopback source

T1 voice interface commands

Table 2-1 lists the T1 parameter and interface monitoring commands found within this chapter.

Table 2-1. T1 voice interface commands

Command	See...
show t1	page 12
set t1 framemode [ESF|D4]	page 12
set t1 linecoding [B8ZS|AMI]	page 13
set t1 clocksource [internal|network]	page 13
set t1 loopback [noloopback|payload|line]	page 14

From within the telephony shell, you can access the T1 commands necessary for configuring digital voice over a T1 port with channel associated signaling.

Note. If, after customizing the T1 configuration, you use the flashclean command, all T1 settings will return to the default settings.

Viewing the T1 configuration settings

You can view the T1 configuration settings by issuing the **show t1** command.

Syntax: **show t1**

Example:

```
VPacket# tel
telephony# show t1
T1 Configuration :
        Frame mode    : ESF
        Line coding   : B8ZS
        Clock source  : network
        Loopback mode : noloopback
telephony#
```

In this example, the T1 parameters are shown.

Setting the T1 frame mode

You can set the T1 frame mode by issuing the **set t1 framemode** command.

Syntax: **set t1 framemode [ESF|D4]**

Arguments:

ESF

D4

Example:

```
VPacket# tel
telephony# set t1 framemode esf
OK
telephony#
```

In this example, the T1 frame mode is set to ESF.

Setting the T1 line coding

You can set the T1 line coding by issuing the **set t1 linecoding** command.

Syntax: **set t1 linecoding [B8ZS|AMI]**

Arguments:

B8ZS

AMI

Example:

```
VPacket# tel
telephony# set t1 linecoding B8ZS
OK
telephony#
```

In this example, the T1 linecoding is set to B8ZS.

Setting the T1 clock source

You can set the T1 clock source to either internal time keeping or from the network by issuing the **set t1 clocksource** command.

Syntax: **set t1 clocksource [internal|network]**

Argument:

internal | network	internal sets the VDR to use the internal clock for time keeping; network forces the VDR to use the network clock

Example:

```
VPacket# tel
telephony# set t1 clocksource network
OK
telephony#
```

In this example, the T1 port is configured to use the network clock for time keeping.

Setting the T1 loopback

You can set the T1 loopback by issuing the **set t1 loopback** command.

Syntax: **set t1 loopback [noloopback|payload|line]**

Argument:

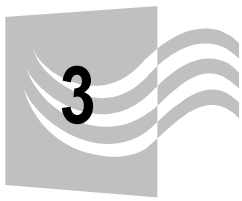
noloopback | payload | line

Example:

```
VPacket# tel
telephony# set t1 loopback noloopback
OK
telephony#
```

In this example, the T1 port is configured to no loopback.

TCID commands



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CHAPTER 3
TCID commands

Overview

TCIDs are typically configured with the following information:

- A preferred coding profile to use for voice
- An alternate coding profile to switch to when FAX tones are detected
- Other possible coding profiles to use if the preferred voice profile cannot be negotiated
- Additional local configuration parameters

The following sections contain each command with a definition, parameters, and an example to show how to modify an existing TCID channel description or build a new one.

- The **set tcid** commands describe and modify the local configuration parameters of the TCID channel as a whole.
- The **set coding** commands describe and modify the coding profile attached to the TCID. See page 29.
- The **set h323** commands modify H.323 parameters pertaining to a TCID. See page 35.

Warning. Other coding commands are available in the CLI help, but any changes made using those other commands are not supported and could adversely affect the performance of the 5100/6100 VDR.

Caution. Before using any TCID modification commands, Vpacket strongly recommends that you prepare a backup configuration of your installation as you have benchmarked it.

TCID commands

Table 3-1 lists all of the TCID-related commands listed in this chapter.

Table 3-1. TCID commands

Group	Command	See...
TCID	set tcid [tcid] mode [sw | trans] [cas | ccs | proxy | xgcp]	page 19
	set tcid [tcid] voice_prof <prof_id number, -1>	page 20
	set tcid [tcid] fax_prof <prof_id number, -1>	page 20
	set tcid [tcid] companding [a_law | mu_law | linear]	page 21

Table 3-1. (continued) TCID commands

Group	Command	See...
	set tcid [tcid] cid name <Caller ID name>	page 21
	set tcid [ticd] cid time <Caller ID number>	page 22
	set tcid [tcid] proto <emi | emw | emd | fxsls | fxsgs >	page 22
TCID FXS loopstart	set tcid [tcid] fxsls offhook_db	page 23
	set tcid [tcid] fxsls onhook_db	page 23
	set tcid [tcid] fxsls seize_detect	page 24
	set tcid [tcid] fxsls orig_clear_detect	page 24
	set tcid [tcid] fxsls answ_clear_detect	page 25
Miscellaneous TCID commands	set tcid [tcid] prof_bit	See H.323 help
	set tcid [tcid] call_cap	
	set tcid [tcid] companding	
	set tcid [tcid] rxgain	
	set tcid [tcid] txgain	
	set tcid [tcid] idle_noise	
	set tcid [tcid] cp_tone_det_ctrl	
	set tcid [tcid] cp_tone_det_config	
	set tcid [tcid] tone_out_on	
	set tcid [tcid] tone_out_off	
	set tcid [tcid] dial_in plar	
	set tcid [tcid] call_limit	
	set tcid [tcid] ans_wait	
	set tcid [tcid] hangup_wait	
	set tcid [tcid] fax_holdover	
	set tcid [tcid] cid name	

Table 3-1. (continued) TCID commands

Group	Command	See...
	set tcid [tcid] cid number	
	set tcid [tcid] cid time	
	set tcid [tcid] tone_table	
	set tcid [tcid] state	
	set tcid [tcid] copyof	

Setting the TCID mode

You can set the operating mode for each TCID (0-23) by issuing the **set tcid [tcid] mode** command. The mode is set on a per TCID basis.

Syntax: **set tcid [tcid] mode [sw | trans] [cas | ccs | proxy | xgcp]**

Arguments:

tcid 0-23; the ID number of the TCID you want to

sw | trans sw is softswitch (choice for H.323)

cas | ccs | proxy | xgcp
cas is channel associated signaling (valid); ccs is clear channel signaling; proxy; xgcp is MGCP (valid)

Example:

```
VPacket# tel
telephony# set tcid 4 mode sw cas
OK
telephony#
```

In this example, the mode for TCID 4 is set to use T1 CAS.

Setting the preferred voice coding profile

You can set the preferred voice coding profile for the TCID by issuing the **set tcid [tcid] voice_prof** command.

Syntax: **set tcid [tcid] voice_prof <prof_id>**

Argument:

tcid	the number of the TCID to which you are setting the preferred coding profile
prof_id	profile ID number; from 0 to maximum number of profiles -1; -1 means no preferred profile

Example:

```
VPacket# tel
telephony# set tcid 0 voice_prof 1
OK
telephony#
```

In this example, the preferred voice coding profile for TCID 0 is set to coding profile number 1.

Setting the preferred fax coding profile

You can set the preferred fax coding profile for the TCID indicated by issuing the **set tcid [tcid] fax_prof** command.

Syntax: **set tcid [tcid] fax_prof <prof_id>**

Argument:

tcid	the number of the TCID to which you are setting the preferred coding profile
prof_id	profile ID number; from 0 to maximum number of profiles -1; -1 means no preferred profile

Example:

```
VPacket# tel
telephony# set tcid 3 fax_prof 5
OK
telephony#
```

In this example, the preferred fax coding profile for TCID number 3 is set to profile number 5.

Setting the companding law

You can set the companding law by issuing the **set tcid [tcid] companding** command.

Syntax: **set tcid [tcid] companding [a_law | mu_law | linear]**

Arguments:

tcid	the ID number of the TCID that you want to configure
a_law | mu_law | linear	a_law is for use in Asia and Europe; mu_law is for use in North America

Example:

```
VPacket# tel
telephony# set tcid 5 companding a_law
OK
telephony#
```

In this example, TCID number 5 is set to use A-law for companding.

Setting the caller ID name

You can set the caller ID name by issuing the **set tcid [tcid] cid name** command.

Syntax: **set tcid [tcid] cid name <Caller ID name>**

Arguments:

tcid	0-23; the number of the TCID that corresponds to the channels assigned to a particular person
caller ID name	1-15 alphanumeric characters; underscore character is supported for spaces; P for private; O for unavailable

Example:

```
VPacket# tel
telephony# set tcid 5 cid name Emmett_Otter
OK
telephony#
```

In this example, Emmett Otter's name is programmed into the caller ID feature of TCID 5.

Setting the caller ID time

You can set the caller ID phone number by issuing the **set tcid [tcid] cid time** command.

Syntax: set tcid [tcid] cid time <MMDDhhmm>

Arguments:

tcid	0-23; the number of the TCID that you want to set the time for
MMDDhhmm	MM=month; DD=date; hh=hour in 24-hour format; mm=minutes

Example:

```
VPacket# tel
telephony# set tcid 5 cid time 11231600
OK
telephony#
```

In this example, the caller ID time and date is set to 4:00 pm on November 23 for TCID 5.

Setting the protocol type

You can set the protocol type by issuing the **set tcid [tcid] proto** command.

Syntax: **set tcid [tcid] proto [emi | emw |emd | fxsls | fxsgs]**

Arguments:

emi	E & M immediate start
emw	E & M wink start
emd	E & M delayed start
fxfls	FXS loop start
fxsgs	FXS ground start

Example:

```
VPacket# tel
telephony# set tcid 2 proto emw
OK
telephony#
```

In this example, the protocol is set to E&M wink start.

Setting the FXS off hook level

You can set the off hook level by issuing the **set tcid [tcid] fxsls offhook_db** command. This command applies only to models with FXS voice interface ports.

Syntax: **set tcid [tcid] fxsls offhook_db <value in ms>**

Argument:

value in ms

Example:

```
telephony# set tcid 2 fxsls offhook_db 3
OK
telephony#
```

In this example, the off hook level is set to 3 ms.

Setting the on hook level

You can set the on hook level by issuing the **set tcid [tcid] fxsls onhook_db** command. This command applies only to models with FXS voice interface ports.

Syntax: **set tcid [tcid] fxsls onhook_db <value in ms>**

Argument:

value in ms

Example:

```
telephony# set tcid 2 fxsls onhook_db 5
OK
telephony#
```

In this example, the on hook level is set to 5 ms.

Setting the seize detect parameter

You can set the seize detect parameter by issuing the **set tcid [tcid] fxsls seize_detect** command. This command applies only to models with FXS voice interface ports.

Syntax: **set tcid [tcid] fxsls seize_detect <value in ms>**

Argument:

value in ms

Example:

```
telephony# set tcid 2 fxsls seize_detect 3
OK
telephony#
```

In this example, the seize detect is set to 3 ms.

Setting the originator clear detect parameter

You can set the originator clear detect parameter by issuing the **set tcid [tcid] fxsls orig_clear_detect** command. This command applies only to models with FXS voice interface ports.

Syntax: **set tcid [tcid] fxsls orig_clear_detect <value in ms>**

Argument:

value in ms

Example:

```
telephony# set tcid 2 fxsls orig_clear_detect 5
OK
telephony#
```

In this example, the clear originator detect parameter is set to 5 ms.

Setting the answer-side clear detect

You can set the answer-side clear detect by issuing the **set tcid [tcid] fxsls answ_clear_detect** command. This command applies only to models with FXS voice interface ports.

Syntax: **set tcid [tcid] fxsls answ_clear_detect <value in ms>**

Argument:

value in ms

Example:

```
telephony# set tcid 2 fxsls answ_clear_detect 4
OK
telephony#
```

In this example, the answer-side clear detect is set to 4 ms.

CHAPTER 3
TCID commands

Coding profile commands

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Coding profile command list, page 29

CHAPTER 4
Coding profile commands

Overview

To set the Vpacket 5100/6100 VDR for operation within an H.323 environment, you need to set the coding type and usage (voice or fax) for each TCID. If the usage is set to fax, you also need to set the coding profile to reflect the recommended settings. The recommended coding profile settings for fax (G.711) are:

- set coding 11 copyof 0
- set coding 11 usage fax on
- set coding 11 usage voice off
- set coding 11 vad off
- set coding 11 nom_delay 80
- set coding 11 max_delay 160
- set coding 11 adaptive_playout off
- set coding 11 tone_detect off

The number 11 (eleven) is a place holder indicating the profile number. You can choose a different number. In addition to these commands, you also need to assign the fax coding profile to a TCID (**set tcid 0 fax_prof 11**). After the settings are configured, you need to **activate** and **commit** the changes.

Coding profile command list

Table 4-1 lists the coding profile commands.

Table 4-1. Coding profile commands

Coding profile	set coding [prof_id] coding_type	page 30
	set coding [prof_id] usage	page 31
T.38 fax-related coding profile parameters	set coding [prof_id] rate	page 32
	set coding [prof_id] fax_hs_pkt_rate	page 32
	set coding [prof_id] fax_ls_redundancy	page 33
	set coding [prof_id] fax_hs_redundancy	page 33
	set coding [prof_id] fax_tcf_method	page 34

Warning. Other coding commands are available in the CLI help, but any changes made using other commands are not recommended and could adversely affect the performance of the 5100/6100 VDR.

Caution. Before using any coding commands, Vpacket strongly recommends that you prepare a backup configuration of your installation as you have benchmarked it.

Assigning codecs to coding profiles

You can specify the codec type for a coding profile by issuing the **set coding** command.

Syntax: **set coding [prof_id] coding_type [tx|rx] <codec type>**

Argument: [tx|rx] <codec type>

Range: Refer to Table 4-2.

Table 4-2. Codec types

Codec Type/parameter	Description
pcm_mu	PCM u-Law coding
pcm_a	PCM a-Law coding
a16	ADPCM 16kbps coding
a24	ADPCM 24kbps coding
a32	ADPCM 32kbps coding
a40	ADPCM 40kbps coding
g723_53	G.723.1 5.3 kbps coding
g723_63	G.723.1 6.3 kbps coding
g729ab	G.729 annex a, annex b 8kbps coding
fax	Fax relay
fax_t38	Fax relay in T.38 mode
clear_chan	PCM with no other processing (VAD, ECU, etc.)

Example:

```
VPacket# tel
telephony# set coding 1 coding_type pcm_mu
OK
telephony#
```

In this example, the telephony submenu is accessed and then the coding command is entered. The 5100/6100 VDR responds to confirm the action.

Setting the coding usage

You can set the coding usage for either voice or fax use by issuing the **set coding [prof_id] usage** command.

Caution. Voice or fax usage are allowed. The 5100/6100 VDR does not allow modem or data coding profile use.

Syntax: **set coding [prof_id] usage <voice | fax | modem | data> <on | off>**

Argument:

voice | fax | modem | data	choices of coding profile use
on | off	to enable or disable the parameter

Example:

```
telephony# set coding 2 usage voice on
OK
telephony#
```

In this example, the coding profile is set to use voice.

Setting the fax data rate

You can set the maximum data rate for a fax coding profile by issuing the **set coding [prof_id] rate** command.

Syntax: **set coding [prof_id] rate <rate>**

Argument:

rate	2400 | 4800 | 7200 | 9600 | 12000 | 14400 | 5300 | 6300

Example:

```
VPacket# tel
telephony# set coding 1 rate 12000
OK
telephony#
```

In this example, the coding rate for coding profile number 1 is set to 12,000.

Setting the fax packet rate

You can set the rate at which high speed data will be sent across the network for a fax coding profile by issuing the **set coding [prof_id] fax_hs_pkt_rate** command.

Syntax: **set coding [prof_id] fax_hs_pkt_rate <value>**

Argument:

value	in milliseconds; 10, 20, 30 or 40

Example:

```
VPacket# tel
telephony# set coding 0 fax_hs_pkt_rate 30
OK
telephony#
```

In this example, the fax high-speed packet rate is set to 30.

Setting the packet-level redundancy

You can specify the packet-level redundancy for low-speed data transmissions (the T.30 handshaking information) for a fax coding profile by issuing the **set coding [prof_id] fax_ls_redundancy** command. The method used involves assembling an additional number of prior packets after the primary with decreasing sequence numbers. For example, if each payload contains a primary and two or more secondary fields, this sequencing protects against a loss of two consecutive UDP Transport Layer (UDPTL) packets.

Syntax: s**et coding [prof_id] fax_ls_redundancy <value>**

Argument:

value 0, 1, 2, 3, 4 or 5

Example:

```
VPacket# tel
telephony# set coding 1 fax_ls_redundancy 2
OK
telephony#
```

In this example, the fax packet-level redundancy is set to 2.

Setting the high-speed redundancy

You can specify the packet-level redundancy for high-speed data transmissions (the T.4 image data) for a fax coding profile by issuing the **set coding [prof_id] fax_hs_redundancy** command.

Syntax: **set coding [prof_id] fax_hs_redundancy <0, 1 or 2>**

Argument:

0, 1 or 2 number of repeat packets to be sent

Example:

```
VPacket# tel
telephony# set coding 1 fax_hs_redundancy 1
OK
telephony#
```

In this example, the redundancy is set to 1.

Setting the fax transmission method

You can control the method with which data for a fax coding profile is moved over a network by issuing the **set coding [prof_id] fax_tcf_method** command. Method 1 (Local) requires that the Training Check Field (TCF) training signal be generated and checked locally by the gateway and is not forwarded over the network. In Method 2 (Network), TCF data is sent over the network. These correspond to Data Management methods 1 and 2 in specification T.38.

Syntax: **set coding [prof_id] fax_tcf_method <method>**

Argument:

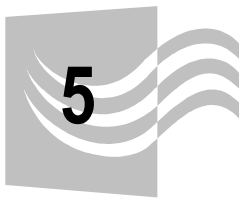
method	1 (local) or 2 (over the network)

Example:

```
VPacket# tel
telephony# set coding 1 fax_tcf_method 2
OK
telephony#
```

In this example, Method 2 is chosen, which requires that a TFC training signal be sent over the network.

H.323 commands



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CHAPTER 5
H.323 commands

Overview

After setting up the coding profile usage and setting the TCID settings, you can configure the H.323 parameters. Configuring the VDR for use in a H.323 environment requires that you qualify the 5100/6100 VDR in its role as a client to the gatekeeper. These commands allow the H.323 gatekeeper and the 5100/6100 VDR to send and receive voice traffic.

H.323 configuration commands

Table lists the H.323 commands to set up the environment and view the configuration details.

Table 5-1. H.323 commands

Command	See...
set h323 gk_mode	page 38
set h323 gk_addr	page 38
set h323 alias	page 39
set h323 out_fast_start	page 39
set h323 in_fast_start	page 40
show h323 display_name	page 40
show h323 h245_term_type	page 41
show h323 rtp_port_base	page 41
show h323 out_fast_start	page 41
show h323 in_fast_start	page 42
show h323 auto_answer	page 42
show h323 gk_mode	page 42
show h323 gk_addr	page 43

Setting the H.323 gatekeeper operation

You can set the controls for gatekeeper operation by issuing the **set h323 gk_mode** command. Internally, the setting affects two different variables in the HSMU configuration.

Syntax: **set h323 gk_mode [off | manual | auto]**

Argument:

off | manual | auto
: off disables gatekeeper operation; manual enables gatekeeper operation in manual mode (you need to set the H.323 gatekeeper IP address); auto enables auto-discovery of the gatekeeper

Example:

```
VPacket# tel
telephony# set h323 gk_mode auto
OK
telephony#
```

In this example, the H.323 gatekeeper mode is set to automatic.

Setting the H.323 gatekeeper address

You can set the address of the gatekeeper when configured for manual mode by issuing the **set h323 gk_addr** command. Only the IP address needs to be specified because port 1719 is always used.

Syntax: **set h323 gk_addr [**x.x.x.x**]**

Argument:

x.x.x.x
: a valid IP address in dotted notation

Example:

```
telephony# set h323 gk_mode manual
Don't forget to set h323 gk_addr!
OK
telephony# set h323 gk_addr 204.56.19.6
OK
telephony#
```

In this example, the H.323 gatekeeper mode is changed to manual and the 5100/6100 VDR sends a reminder to set the H.323 gatekeeper IP address. The IP address for the H.323 gatekeeper is set to 204.56.19.6.

Creating and deleting H.323 gatekeeper aliases

You can create and delete aliases that are registered with the gatekeeper by issuing the **set h323 alias** command.

Syntax: **set h323 alias add [E.164 | H.323] <alias>**

set h323 alias delete [<alias> | delete all]

Argument:

add [E.164 | H.323] <alias> | delete <alias> | delete all
add adds one of two aliases: E.164 or H.323; the alias can be a string of up to 19 alphanumeric characters including the "_"

delete <alias> | delete all
deletes a specific alias or all aliases

Example 1:

```
VPacket# tel
telephony# set h323 alias add H.323 H.323_starfish_3
OK
telephony#
```

In this example, the H.323 alias "H.323_starfish_3" is set for the H.323 gatekeeper.

Example 2:

```
telephony# set h323 alias delete all
OK
telephony#
```

In this example, all H.323 aliases are deleted.

Setting the H.323 fast start mode for the outgoing side

You can select the H.323 fast start mode on the outgoing call handling by issuing the **set h323 out_fast_start** command.

Syntax: **set h323 out_fast_start [on | off]**

Note. This command is effective immediately; activate and restart are not required.

Argument:

on | off — on enables this feature; off disables the feature

Example:

```
telephony# set h323 out_fast_start on
OK
telephony# 11/08/2001:13:22:55 - HSMU: Set param function.
```

In this example, the H.323 fast start mode is enabled on the outgoing call handling.

Setting the H.323 fast start mode for the incoming side

You can select the H.323 Faststart mode on the incoming call handling by issuing the set h323 in_fast_start command.

Syntax: **set h323 in_fast_start [on | off]**

Note. This command is effective immediately; activate and restart are not required.

Argument:

on | off

Example:

```
telephony# set h323 in_fast_start on
OK
telephony# 11/08/2001:13:23:29 - HSMU: Set param function.
```

In this example, the H.323 fast start mode is set for the incoming call handling.

Viewing H.323 display name

You can view the configured H.323 display name by issuing the **show h323 display_name** command.

Syntax: **show h323 display_name**

Example:

```
VPacket# tel
telephony# show h323 display_name
 h323 display_name        = 'Vpacket VDR-6100'
telephony#
```

In this example, the H.323 display name is "Vpacket VDR-6100."

Viewing the H.323 H.245 term type

You can view the H.245 term type by issuing the show **h323 h245_term_type** command.

Syntax: **show h323 h245_term_type**

Example:

```
VPacket# tel
telephony# show h323 h245_term_type
 h323 h245_term_type      = 60
telephony#
```

In this example, the H.245 term type is shown.

Viewing the H.323 RTP port base

You can view the RTP port base figure by issuing the **show h323 rtp_port_base** command.

Syntax: **show h323 rtp_port_base**

Example:

```
VPacket# tel
telephony# show h323 rtp_port_base
 h323 rtp_port_base       = 30000
telephony#
```

In this example, the RTP port base figure is shown to be 30,000.

Viewing the fast start setting on the outgoing call handling

You can view the H.323 fast start setting on the outgoing call handling by issuing the **show h323 out_fast_start** command.

Syntax: **show h323 out_fast_start**

Example:

```
VPacket# tel
telephony# show h323 out_fast_start
 h323 out_fast_start      = 1
telephony#
```

In this example, the H.323 out fast start setting of 1 is shown.

Viewing the incoming call handling

You can view the fast start setting for the incoming call handing by issuing the **show h323 in_fast_start** command.

Syntax: **show h323 in_fast_start**

Example

```
VPacket# tel
telephony# show h323 in_fast_start
 h323 in_fast_start       = 1
telephony#
```

In this example, the fast start setting for the incoming call handling is shown.

Viewing the H.323 auto answer configuration

You can view the auto answer configuration by issuing the **show h323 auto_answer** command.

Syntax: **show h323 auto_answer**

Example

```
VPacket# tel
telephony# show h323 auto_answer
 h323 auto_answer        = on (1) = The call is connected
automatically for instant voice.
telephony#
```

In this example, the auto answer setting is shown.

Viewing the H.323 gatekeeper mode

You can view the active H.323 gatekeeper mode by issuing the **show h323 gk_mode** command.

Syntax: **show h323 gk_mode**

Example:

```
telephony# show h323 gk_mode
 h323 gk_mode             = off
telephony#
```

In this example, the H.323 gatekeeper mode is shown to be off.

Viewing the H.323 gatekeeper address

You can view the IP address of the H.323 gatekeeper by issuing the **show h323 gk_addr** command. If the H.323 gatekeeper mode is set to off, no IP address is given and a telephony prompt appears.

Syntax: **show h323 gk_addr**

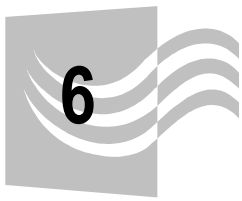
Example:

```
telephony# show h323 gk_addr
h323 gk_addr              = 192.156.74.2
telephony#
```

In this example, the IP address of the H.323 gatekeeper is given.

CHAPTER 5
H.323 commands

Address Translation Parsing Module (ATPM)



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Viewing the system-wide ATMP parameters, page 54

CHAPTER 6
Address Translation Parsing Module (ATPM)

Overview

The Address Translation Parsing Module (ATPM) is used to configure a dial plan for a system that is running within an H.323 environment.

The ATPM provides a set of utilities to perform these tasks:

- Store and retrieve configuration information from Flash.
- Delete all configured entries.
- Generate a limited number of entries automatically.
- Managing the Flash configuration

On startup, the ATPM database can be configured in one of two ways:

If no valid configuration record is found in Flash, the ATPM database is set to some predefined default.

If a valid configuration has previously been stored in Flash memory, then the ATPM database is read from the record in the Flash.

The following commands support the management of the Flash-based ATPM configuration:

- atpm genlist <all | addr | hunt | dest> automatically generates lists based on the system parameters and the IP addresses which are found in the three lists or tables (addr for alist, hunt for hlist, and dest for dlist).
- atpm purge <all | addr | hunt | dest> deletes all entries from the ATPM configuration in all lists or the specified list.
- atpm store stores all entries from the ATPM configuration into Flash memory. The Flash ATPM sector will be erased before storing the current entries

atpm restores all ATPM entries from Flash to the ATPM tables. If some entries are already configured in ATPM when the restore command is used, there could be errors reported due to conflicting entries. It is best to execute an atpm purge all command before using a restore command.

Storing and activating ATPM configurations

When a command has been issued, it is in the Active area where it can be stored or removed by user operation. To implement a change, that command must be stored so when it is rebooted it can be used by the ATPM.

To change the ATPM database, the configuring module must initiate the process by making an ATPM update database request with the command atpm req.

The module can then start configuring the ATPM database after the ATPM responds with a Database update granted response. The ATPM will give the Database Update granted after all the translation and hunt sessions that were in progress during the update request command, are closed. When the module has completed its configuration changes, it sends the CLI the ATPM update database message atpm done.

For example, to update the database you issue the **atpm req** command:

```
VPacket# telephony
tel# atpm req
0005957541 - NMM: ATPM Update Database Granted
OK
tel#
```

The ATPM database accepts no update requests until the ATPM database signals that changes have been made, so no new translations or Hunt sessions will be accepted. This is to avoid wrong translation due to inconsistent ATPM database.

Generating an ATPM Configuration

To generate your own ATPM configuration (numbering plan) that you can store to use in the future or employ immediately, perform the following steps:

1. Use **atpm req** to request an ATPM database update.
2. Use **atpm purge** to delete the current configuration.
3. Use **atpm dadd**, **atpm hadd**, and **atpm aadd** to build a new configuration.
4. Use **atpm done** to indicate end of database update.

Use **atpm store** to save this configuration.

ATPM Telephone Address to Hunting Group Table

The ATPM Telephone Address to Hunt Group ID List (alist) provides mapping from a telephony address to one of the hunt groups specified in the Hunt Group List.

Use the atpm add command syntax to define this table:

atpm aadd <tele_number> <min_digits> <max_digits> <hunt_group_id> <prefix_strip_len> [prefix_number]

where

<tele_number>: Telephone Number to match. This is only a part of the total dialed string.

<min_digits>: Minimum number of digits to be collected. This must be less than or equal to the number of digits in tele_number to match.

<max_digits>: Maximum number of digits to be collected. (Max_dial_digits).

<hunt_group_id>: Hunt group ID for this telephone number.

<prefix_strip_len>: The number of digits to be stripped at the beginning of the collected address.

[prefix_number]: Digit to be attached to the beginning of the address before forwarding it. Note that this optional step of attaching a new prefix address is done only after the previous step of stripping some prefix digits on the collected digits.

This set of parameters allows for fairly complicated address-mapping schemes to be developed so Vpacket strongly urges that you have a well-developed plan for assigning values designed beforehand.

Note. The prefix_number value is an optional parameter, that is, if no number is entered, no prefix number is configured.

Table 6-1 lists the alist parameters, range, and description of each parameter.

Table 6-1. alist Parameters defined

Parameter	Range	Description
tele_number	Portion of the total dialed number to match	Maximum number of digits that can be dialed. Each digit can be 0 to 9, a, b, c, d, *, #. (dial-terminating digit cannot be a part of the tele_number)
min_digits	1 to maximum dialable digits	Minimum number of digits to be collected (should be greater than or equal to the number of digits in tele_number)
max_digits	1 to maximum dialable digits	Maximum number of digits to be collected match (should be greater than or equal to the value of min_digits)
hunt_group_id	0 to maximum number of Hunt Groups – 1	Should be greater than or equal to the value of Hunt Groups set
prefix_strip_len	0 to maximum number of digits you can dial – 1	The number of digits to be stripped at the beginning of the collected address
[prefix_number]	1-4 digits	Digits to be attached to the beginning of the address before forwarding it (Attaching a prefix address is done only after the previous step of stripping some prefix digits on the collected digits)

To view a particular member of the list, use the **afind** <*tele_number*> command.

To delete a particular member of the list, use the **adel** <*tele_number*> command.

To view the address list, issue the **atpm alist** command.

Example:

```
VPacket(telephony)# atpm alist
                      Address  Hunt   Min    Max    Prefx Prefix
                      Entry    Grp_Id Digits Digits strip Address
                  14085715600      0   11     11     11   None
                  14085715601      1   11     11     11   None
                  14085715602      2   11     11     11   None
                  14085715603      3   11     11     11   None
                  14085715604      4   11     11     11   None
                  14085715605      5   11     11     11   None
                  14085715606      6   11     11     11   None
                  14085715607      7   11     11     11   None
                  14085715608      8   11     11     11   None
                  14085715609      9   11     11     11   None
                  14085715610     10   11     11     11   None
                  14085715611     11   11     11     11   None
                         5600      0    4      4      4   None
                         5601      1    4      4      4   None
                         5602      2    4      4      4   None
                         5603      3    4      4      4   None
                         5604      4    4      4      4   None
                         5605      5    4      4      4   None
                         5606      6    4      4      4   None
                         5607      7    4      4      4   None
                         5608      8    4      4      4   None
                         5609      9    4      4      4   None
                         5610     10    4      4      4   None
                         5611     11    4      4      4   None
                      5715600      0    7      7      7   None
                      5715601      1    7      7      7   None
                      5715602      2    7      7      7   None
                      5715603      3    7      7      7   None
                      5715604      4    7      7      7   None
                      5715605      5    7      7      7   None
                      5715606      6    7      7      7   None
                      5715607      7    7      7      7   None
                      5715608      8    7      7      7   None
                      5715609      9    7      7      7   None
            5715610 10 7  7  7 None
5715611     11    7      7      7   None
                           9     12    8     32      1   None
OK
VPacket(telephony)#
```

In this example, the alist covers all three possible cases for the numbers 408-571-5600 to 408-571-5611, twelve numbers which match the VDR physical telephone lines:

- The first 12 are incoming, "fully-qualified" numbers, which include the full 10-digits of long-distance and area code.
- The second 12 are "in-house" or "intercom" options, which support port-to-port connections.
- The third 12 are "local" numbers and support local connections.
- The last number is the minimum for accessing an outside line.

Creating a hunt group ID to destination ID mapping table

This configuration table is used to hunt for destinations in the specified Hunt Group. This list contains entries that specify hunt type and members.

Each Hunt Group must have at least one member. The maximum number of members is decided by the amount of space in the Hunt Members list (hlist). The parameter MAX_HUNT_MEMBERS contains this value for all Hunt Group members.

Syntax: atpm hadd <hunt_group_id> <hunt_type> <member1_id> [member2_id] ..

Table 6-2 lists the parameters for the command..

Table 6-2. hlist parameters defined

Parameter	Range	Description
hunt_group_id	0 to (maximum number of Hunt Groups – 1)	Numerical value for each Hunt Group
hunt_type	1 -> GG_HUNT_ROUND_ ROBIN_PER_HUNT_ GROUP 2 -> GG_HUNT_ROUND_ ROBIN_PER_SESSION	Starts from the last-used member each time a hunt request comes in (last-used member is remembered across sessions). Starts from the first member in the hunt group each time a new session is started. All other values are invalid.
member1_id, ..member2_id,	0 to (maximum number of destinations - 1)	Numerical identifiers for each Hunt Group member Only member1_id is necessary to create a Hunt Group.

Related commands:

atpm hdel <hunt_group_id> deletes the specified Hunt group from the Hunt group list.

atpm hfind <hunt_group_id> finds and displays information related the specified Hunt Group in the Hunt Group list.

atpm hlist displays all the entries in the Hunt group list.

atpm hdel <hunt_group_id>removes a specific entries in the Hunt group list.

Destinations list

The ATPM Destination List builds a list (dlist) which provides a mapping from a destination ID to the physical termination of a call using either the Telephony Switching Gateway Module (TSGM) or the H.323 Switch Mode Unit (HSMU).

To set up the destination list, use the following two commands with this syntax:

atpm dadd <*dest_id*> **tsgm** <*tcid*>

where <dest_id> and <tcid> are valid TCID channels.

Table 6-3. dlist Parameters Defined

Parameter	Range	Description
<dest_id>	0 to (Maximum number of destinations specified – 1)	The range of destination
<tcid>	V0 to (Maximum number of destinations specified – 1)	The range of TCID-numbered channels

atpm dadd <dest_id> **hsmu** [tcp | udp] <x.x.x.x> <port>

where <dest_id> is a positive integer, <x.x.x.x> is a valid IP address, and <port> can be either 1719 (UDP) or 1720 (TCP).

Table 6-4. dlist Parameters Defined (H.323 mode)

Parameter	Range	Description
dest_id	0 to (maximum number of destinations -1	)The range of physical destination connections (phone lines)
network address	Valid IP address and port number in dotted-decimal format.	Ethernet address of end point for the connection.

Additional commands used to maintain the dlist table:

- **atpm ddel** <dest_id> deletes the specified destination from the destination table.
- **atpm dfind** <dest_id> finds and displays the specified destination in the destination table.
- **atpm dlist** displays all the destinations currently configured in the destination table.

To view the destination list, issue the atpm dlist command and you will see something similar to the following example:

```
VPacket(telephony)# atpm dlist
Dest id =   0, Mode = TSGM, TCID = 0
Dest id =   1, Mode = TSGM, TCID = 1
Dest id =   2, Mode = TSGM, TCID = 2
Dest id =   3, Mode = TSGM, TCID = 3
Dest id =   4, Mode = TSGM, TCID = 4
Dest id =   5, Mode = TSGM, TCID = 5
Dest id =   6, Mode = TSGM, TCID = 6
Dest id =   7, Mode = TSGM, TCID = 7
Dest id =   8, Mode = TSGM, TCID = 8
Dest id =   9, Mode = TSGM, TCID = 9
Dest id =  10, Mode = TSGM, TCID = 10
Dest id =  11, Mode = TSGM, TCID = 11
Dest id =  12, Mode = HSMU, Dest = 192.168.11.1/1720 TCP
OK
VPacket(telephony)#
```

Here we see a listing of a fully subscribed VDR having all 12 ports assigned to successive TCIDs; the 12th destination ID is connected via the H.323 capability to the incoming Ethernet connection at IP address 192.168.1.1 via TCP on port 1720.

System Parameters

The system-wide parameters are configured with this command:

atpm sys <dial_time> <1st_digit_wait> <inter_digit_wait> <dial_out_code> <area_code> <office_code> <first_dn> [dial_term_digit]

Table 6-5. slist Parameters defined

Parameter	Range	Description
dial_time	1 to 4294967295 ms	Time between going off hook and dialing the first digit
first_digit_wait	1 to 4294967295 ms	Time between going off hook and dialing the first digit
Inter_digit_wait	1 to 4294967295 ms	Time between successive digits

Table 6-5. slist Parameters defined

Parameter	Range	Description
<dial_out_code>	9	Single number which signals leaving an internal exchange
<area_code>	2–9	Under the North American Numbering Plan, a three-digit "toll area" prefix; there are 796.
<office_code>	101–929	First three digits of seven digit local number.
<first_dn>	1000–9999	Local branch exchange numbers begin with this prefix.
dial_term_digit	Optional parameter. Any valid dial digit (Values 0 to 9, a, b, c, d,...*, #)	Digit which indicates end of dial string.

It cannot be part of a valid number. All the digits dialed till the "dial term digit" are considered valid and the "dial term digit" is discarded. If no parameter is entered, then no dial terminating digit is configured.

Viewing the system-wide ATMP parameters

To view the system-wide parameters, use the **slist** command.

Example:

```
VPacket(telephony)# atpm slist
System Info:  Total dial time = 120000ms, First digit wait =
30000ms,
              Interdigit wait = 10000ms,  Dial term digit = #,
             Dial out code = 9, Area Code = 408, Office Code = 571,
First DN
= 5600
OK
VPacket(telephony)#
```

In this example, the dial time is 120000ms or 2 minutes; the interval allowed between picking up the phone and dialing the first number before the system sends you a busy signal is 30 seconds; the allowed interval between dialing the numbers of your call is also 10 seconds; the digit you dial to terminate the call is the pound sign #;, the digit you dial to access an outside line is the 9, your

area code is 408; the local or Office code is 571 and the local branch of internal numbers begins with 5600.

The first three parameters define line activity characteristics, the second four provide the information for generating an ATPM database, and the optional final parameter allows the caller to end the call before anyone can answer it.

CHAPTER 6
Address Translation Parsing Module (ATPM)

Call quality commands

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CHAPTER 7
Call quality commands

Overview

H.323 support includes Call Detail Record (CDR) functionality. CDR records every successful phone call which is placed through the VDR. Each successful phone call will have one record in the CDR list. The system administrator can extract and review detailed records concerning phone quality and also can access these records for billing purposes.

Call quality commands

Table 7-1 lists the call quality commands.

Table 7-1. Call quality commands

Command	See...
cdr	page 59
cdr list	page 60
cdr clean	page 61
cdr stats	page 61

Enabling or disabling the Call Detail Record feature

You can enable or disable the Call Detail Record (CDR) feature by issuing the **cdr** command. The CDR feature is enabled by default.

Syntax: **cdr [on | off]**

Arguments:

on | off enables or disables the CDR feature; default = on

Example:

```
VPacket# tel
telephony# cdr off
CDR function is now set to OFF
telephony#
telephony# cdr on
CDR function is now set to ON
telephony#
```

In this example, the CDR feature is disabled and then re-enabled. The 5100/6100 VDR prints a status message with each command.

Viewing Call Detail Records

You can view all of the Call Detail Records by issuing the **cdr list** command. You may view a specific entry by entering a record number after the command.

Syntax: **cdr list [record_no]**

Argument:

record_no is the record number of the call that you want to view

Example:

```
telephony# cdr list
ID TCID Date  Start  Dur    Setup  Dly Jitter Pkg  Coder  Vqs  FJit FPkg  FVqs
33  2   5/18  16:57  21162  2834   0   0      0    G.711  4.37 0    0     4.37
34  1   5/18  16:58  12202  2828   0   0      0    G.711  4.37 0    0     4.37
35  2   5/18  16:58  12190  2950   0   0      0    G.711  4.37 0    0     4.37
36  0   5/18  16:58  14204  1804   0   0      0    G.711  4.37 0    0     4.37
37  2   5/18  16:58  14202  1922   0   0      0    G.711  4.37 0    0     4.37
```

In this example, the CDR table includes:

- an ID for each call (a unique number assigned on a per-session basis)
- the TCID assigned to the call
- Date, Start (Starting Time) and Dur(ation) timestamps
- Dly (delay in making the round-trip, measured in milliseconds)
- Jitter (in milliseconds)
- Pkg (percentage of the packets lost during transmission)
- Coder (the codec assigned to the traffic flow)
- Vqs (the numerical quality of the Voice Quality Service measurement)
- Fjit (the measured Far-End Jitter)
- FPkg (Far-End Packet percentage loss)
- FVqs (Far-End Voice Quality Service measurement)

Deleting CDR information from the Flash memory

You can delete the CDR information from the Flash memory by issuing the **cdr clean** command.

Syntax: **cdr clean**

Example:

```
VPacket# tel
telephony# cdr clean
telephony#
```

In this example, all previously stored CDR information is deleted from the Flash memory.

Viewing CDR statistics

You can view the current CDR statistics by issuing the **cdr stats** command.

Syntax: **cdr stats**

Example:

```
VPacket# tel
telephony# cdr stats
Largest_CDR, Current_CDR, Largest_PollID, Current_PollID
0             0            0              0
CDR has no record yet
CDR is activated, Polling is not activated
telephony#
```

In this example, the polling status and CDR status is listed. In addition, statistics are given for:

- the largest CDR
- the current CDR
- the largest polled ID
- the current polled ID

CHAPTER 7
Call quality commands

Default coding profiles 8

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Overview, page 3

APPENDIX 8
Default coding profiles

Overview

Vpacket supplies the following default coding profiles for the 5100/6100 VDR. The first six are for data and the last two are for fax. Coding profiles numbered 0 through 5 are specifically for data. To access the default coding profiles , enter show coding <coding profile number> at the telephony prompt.

Configuration for coding profile id 0:

```
Tx Coding = G.711 MU
Rx Coding = G.711 MU
Coding profile for voice

Tx VIF size = 1280 (bits)
Rx VIF size = 1280 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 30 (msec)
Playout maximum delay = 60 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
```

```
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 1:

```
Tx Coding = G.711 A
Rx Coding = G.711 A
Coding profile for voice

Tx VIF size = 1280 (bits)
Rx VIF size = 1280 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 30 (msec)
Playout maximum delay = 60 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
```

```
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 2:

```
Tx Coding = G723 5.3 kbps
Rx Coding = G723 5.3 kbps
Coding profile for voice

Tx VIF size = 192 (bits)
Rx VIF size = 192 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 60 (msec)
Playout maximum delay = 120 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0

Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)
Encapsulation = RTP
```

Configuration for coding profile id 3:

```
Tx Coding = G723 6.3 kbps
Rx Coding = G723 6.3 kbps
Coding profile for voice

Tx VIF size = 192 (bits)
Rx VIF size = 192 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 60 (msec)
Playout maximum delay = 120 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 8 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 4:

```
Tx Coding = G.729AB
Rx Coding = G.729AB
Coding profile for voice

Tx VIF size = 160 (bits)
Rx VIF size = 160 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 60 (msec)
Playout maximum delay = 120 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 5:

```
Tx Coding = G.726 32K
Rx Coding = G.726 32K
Coding profile for voice

Tx VIF size = 640 (bits)
Rx VIF size = 640 (bits)
VAD = ENABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 30 (msec)
Playout maximum delay = 60 (msec)
Adaptive Playout = ENABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0

Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 6:

```
Tx Coding = T.38 FAX
Rx Coding = T.38 FAX
Coding profile for fax

Tx VIF size = 240 (bits)
Rx VIF size = 240 (bits)
VAD = DISABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 200 (msec)
Playout maximum delay = 200 (msec)
Adaptive Playout = DISABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = FREEZE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 0 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0

T.38 Fax Parameters
-------------------
Fax high-speed packet rate = 20 (msec)
Fax low-speed redundancy for T.38 UDP = 3
Fax high-speed redundancy for T.38 UDP = 0
TCF handling = Method 1 (Locally generated and checked)


Caller ID Support = ENABLED
```

```
Resampling              = DISABLED
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 7:

```
Tx Coding = FAX
Rx Coding = FAX
Coding profile for fax

Tx VIF size = 240 (bits)
Rx VIF size = 240 (bits)
VAD = DISABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 200 (msec)
Playout maximum delay = 200 (msec)
Adaptive Playout = DISABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = ENABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = FREEZE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 0 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
```

```
EC Config               = NLP_FIXED
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

Configuration for coding profile id 8:

```
Tx Coding = G.711 MU
Rx Coding = G.711 MU
Coding profile for fax

Tx VIF size = 1280 (bits)
Rx VIF size = 1280 (bits)
VAD = DISABLED
VAD threshold = 0 (dB) (relative to ref level of -30dBm)
Playout nominal delay = 80 (msec)
Playout maximum delay = 160 (msec)
Adaptive Playout = DISABLED
Rate = 14400
DTMF Relay = ENABLED
Tone detect = DISABLED
Call Progress Tone detect = DISABLED
V.18 Tone detect = DISABLED
SS7 COT Tone detect = DISABLED
SF Sig Tone detect = DISABLED
EC = ENABLED
EC NL = ENABLED
EC NL Sens = 327
EC Tail = 16 (msec)
EC Freeze = UPDATE
EC Coeffs = RESET
Modem TX level = -13 (dB)
Modem CD threshold = 0
Modem no activity timeout = 20 (sec)
Silence detection time = 60 (msec)
Silence detection level = -50 (dB)
Fax debug level = 0


Caller ID Support = ENABLED

Resampling              = DISABLED
EC Config               = NLP_FIXED
```

```
NLP Comfort Noise       = -40 (dB)

Encapsulation = RTP
```

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